ORIGINAL TO GENERAL FILES

D.O.T. 66

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE EDS-84(23)/BHN-007-3(25)
Clinch-Ware Counties
P.I. Nos. 422120/422125
SR 38 Improvements

OFFICE Preconstruction

DATE August 16, 2004

FROM Margaret B. Pirkle, P.E., Assistant Director of Preconstruction

TO SEE DISTRIBUTION

SUBJECT REVISED PROJECT CONCEPT REPORT APPROVAL

Attached for your files is the approval for subject project.

MBP/cj

Attachment

DISTRIBUTION:

David Mulling
Harvey Keepler
Jerry Hobbs
Jamie Simpson
Michael Henry
Phillip Allen
Joe Palladi (file copy)
Brent Story
David Crim
BOARD MEMBER

DEPARTMENT OF TRANSPORTATION
STATE OF GEORGIA

INTERDEPARTMENT CORRESPONDENCE

FILE: EDS-84(23) & BHN-007-3(25)
P.I. No.: 422120 & 422125
Clinch & Ware Counties

OFFICE: Environment/Location

DATE: June 30, 2004

FROM: HDK/KEP
Harvey D. Keepler, State Environmental/Location Engineer

TO: Meg Pirkle, Assistant Director of Preconstruction

SUBJECT: **Revised Project Concept Report** – SR 38 Improvements, Clinch & Ware Counties

Attached is the original copy of the revised concept Report for your further handling for approval in accordance with the Plan Development Process (PDP).

In order to meet the Department's current guidelines for G.R.I.P. projects and minimize environmental impacts along the project corridor, the alignment, typical section, and design speed for project EDS-84(23) are proposed to be revised. The alignment is recommended to be revised to include a bypass with a 32-foot depressed median north of the town of Argyle. The typical section is recommended to be revised to a 14-foot flush urban section near Homerville, and a 14-foot flush rural and urban section through the community of Manor in Ware County. The design speed of the project segments with 14-flush median urban and rural typical sections would be revised to 45 mph, while the design speed of the project segments with a 32-foot depressed median typical section would be revised to 65 mph. The Woodyard Creek bridge would be replaced and the Woodyard Creek Overflow bridge would be widened. The existing structures over Cane Creek, Peters Branch, Box Creek, and Little Suwanee Creek would be replaced and new parallel structures would be added. Project BHN-007-3(25) would replace the existing bridge over Suwanee Creek, and a new parallel bridge over Suwanee Creek would be constructed as part of EDS-84(23).

The revised concept as presented herein and submitted for approval is not listed in the current State Transportation Improvement Program (STIP), but is consistent with that which is included in the Department's Construction Work Program (CWP).

DATE: 8/4/04

State Transportation Planning Administrator

HDK/KET/drp

Attachments

Distribution:
David Mulling, Project Review Engineer
Phillip Allen, State Traffic Safety & Design Engineer
Joe Palladi, State Transportation Planning Administrator
Jamie Simpson, State Transportation Financial Management Administrator
Brent Story, State Consultant Design Engineer
David Crim, Tifton Distric Engineer
Gary Priester, Jesup District Engineer
Paul Liles, State Bridge & Structural Design Engineer

REVISED PROJECT CONCEPT REPORT
EDS-84(23) – CLINCH & WARE CO.

Need and Purpose: The SR 38 Improvements are part of the Governor's Road Improvement Program (G.R.I.P.) and involves the multi-laning of this primary east-west corridor in south Georgia, serving as a catalyst for the development of this region. The improvements will aid in the economic development of sparsely populated rural areas and small towns along this route. Traffic carrying capacity will be increased and safety and operational characteristics along this segment will be improved.

Project Location: The proposed concept would be located along SR 38 beginning at mile post 15.6 in Clinch County and ending at mile post 3.9 in Ware County. The total length of the project is approximately 11.4 miles. Project EDS-84(23) is located entirely within Clinch and Ware Counties.

Description of Approved Concept: The project begins just west of Woodyard Creek and would widen US 84/SR 38 on the south side by adding a 20-foot raised median and two 12-foot lanes. It would continue to a point 175 feet west of CR 194/Homerville Bypass. The widening would then shift to the north side in order to stay off the CSX railroad, and would continue to a point just east of the Woodyard Creek Overflow bridge. At this point, the median would taper out to a 32-foot grassed median, and continue eastward to approximately 1,400 feet east of Peters Branch. From there, the median would taper down to a 20-foot raised median, widening US 84/SR 38 symmetrically and add four 12-foot lanes in an urban section. It would continue to CS 704, in the city of Argyle. The project would then shift and widen US 84/SR 38 to the north side and continue to approximately 600 feet east of CR 204. This concept would avoid an eligible historic site along the south side. The project would continue eastward with reconstruction of the horizontal alignment, shifting the existing reverse curve to the east. The four lanes with a 20-foot raised median would continue to approximately 800 feet west of Box Creek. At this point, the median would taper out to a 32-foot grassed median adding four 12-foot lanes, widening to the north side while holding the existing right of way on the south side of US 84/SR 38 and continue to just west of Box Creek. The project would then utilize the existing two lanes adding two 12-foot lanes with a 32-foot grassed median to the north side of US 84/SR38. This alignment would continue to approximately 600 feet west of CR 27, just west of Manor. The median would then taper down to a 20-foot raised median adding two 12-foot lanes on the north side using an urban section. It would continue to CR 472. The alignment would then shift to the south side and continue to approximately 1800 feet east of CR 472. The median would then taper out to a 44-foot grassed median and continue to a point just west of Greasy Branch Creek, east of Manor, where the project would end.

PDP Classification: Major/Construction on existing location
Full Oversight ( ), Exempt (X), SF ( ), Other ( )

Functional Classification: Rural Principal Arterial
U.S. Route Number(s): 84 **State Route Number(s):** 38

Traffic (AADT) as shown in the approved concept:

Current Traffic		Design Traffic	
Year: 2001	AADT: 5,500	Year: 2021	AADT: 9,750

Proposed Features to be Revised:

- **Alignment:** In order to avoid newly found eligible historic resources, the project alignment at Argyle is to be revised from a 20-foot raised median urban section through town to a 32-foot depressed median section bypass on new location north of town.

- **Typical Section:**
  - The typical section beginning west of Woodyard Creek would be revised to four lanes with a 14-foot flush median urban section.
  - The typical section through the Manor community would be revised to four lanes with a 14-foot flush median section. The typical section through Manor would vary between rural and urban sections, corresponding to the existing roadway.
- **Design Speed:** The speed design of the project segments with 14-flush median typical sections would be 45 mph, while the speed design of the project segments with a 32-foot depressed median typical section would be 65 mph.

Describe Revisions to be Approved:

- **Alignment:** Argyle Bypass – The project alignment would shift northwards on new location beginning west of Argyle at approximately Peters Branch, constructing a four lane roadway with a 32-foot depressed median rural section north of Argyle. After crossing the existing power easement, the alignment would turn westward, following the north side of the power easement. The alignment follows the power easement to approximately CR 128, where the alignment turns southward and returns to widen to the north side of existing US 84/SR, beginning just west of Polly Branch. The Woodyard Creek bridge would be replaced and the Woodyard Creek Overflow bridge would be widened to correspond with the 14-foot flush median typical section. New parallel bridges would be constructed to replace the existing structures over Cane Creek, Peters Branch, Box Creek, and Little Suwanee Creek. Project BHN-007-3(25) would replace the existing bridge over Suwanee Creek, and a new parallel bridge would be constructed as part of EDS-84(23).
- **Typical Section:**
  - The typical section beginning west of Woodyard Creek and continuing to just east of the Woodyard Creek Overflow bridge in Clinch County would be revised to four lanes with a 14-foot flush median urban section. This change would be in accordance with the Department's current median guidelines, and would reduce impacts to the adjacent railroad, wetlands, residences, and businesses along the corridor.
  - The typical section through Manor is to be revised to four lanes with a 14-foot flush median typical section to avoid impacting a historic resource, as well as to reduce impacts to residences and businesses through the community. Beginning at approximately 500 feet west of CR 27 in Ware County, the typical section would taper from four lanes with a 32-foot depressed median typical section to a 14-foot flush median rural typical section. Approximately 1150 feet west of CR 24, the typical section would transition to four lanes with a 14-foot flush median urban section, corresponding to the existing urban section through Manor. The 14-foot flush median urban typical section would continue through Manor to approximately 1000 feet east of CR 57, where the typical section would begin transitioning to a four lane 32-foot depressed median rural typical section, reaching the full 32-foot depressed median section before the project ends just west of Greasy Branch Creek.
- **Design Speed:** The Approved Concept Report dated September 10, 1992 specified the design speed as 55/45 mph. The design speed of the project segments with 14-flush median urban and rural typical sections would be revised to 45 mph, while the design speed of the project segments with a 32-foot depressed median typical section would be revised to 65 mph. This is in accordance with the Department's current design guidelines for GRIP projects.

Updated Traffic Data (AADT):

Current Traffic		Design Traffic	
Year: 2005	AADT: 7,150	Year: 2025	AADT: 10,800

Programmed/Schedule:

P.E.: 2002 R/W: ~~2005~~ LR Construction: ~~2007~~ LR

Revised Cost Estimates:

Construction cost including inflation and E&C:

EDS-84(23):	$ 26,375,000
BHN-007-3(25):	$ 376,000
Right-of-Way:	$ 4,117,000

Is the project located in a Non-attainment area? _____ **Yes** **X** **No**

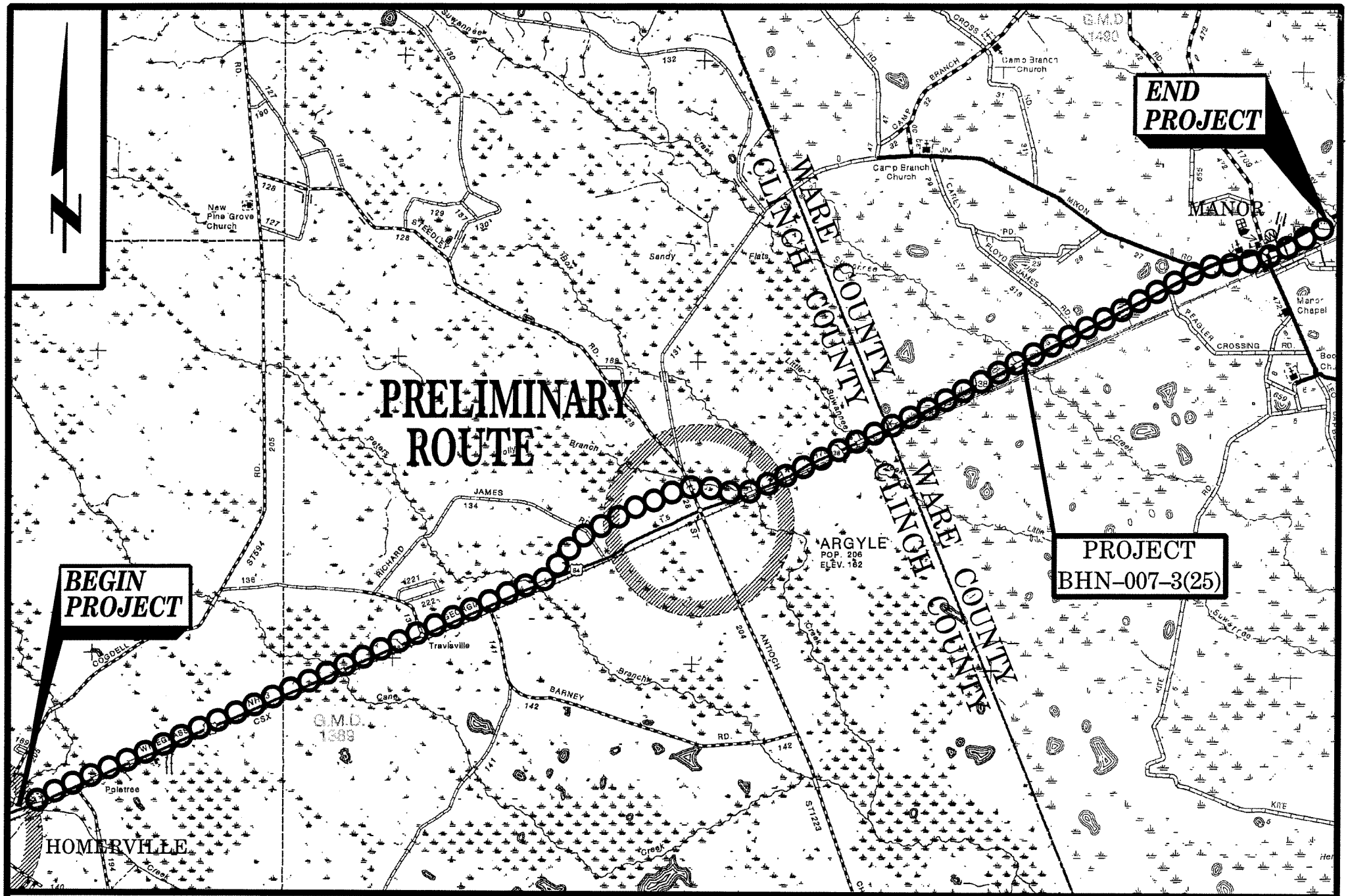
Recommendation: It is recommended that the proposed revision to this concept be approved for implementation.

HDK/KET/drp

Attachments: Strip Map
Typical Section
Construction Cost Estimate

Concur: _____
Thomas L. Turner, P.E.
Director of Pre-Construction

Approve: _____
Paul V. Mullins, P.E.
Chief Engineer



SOURCE: GENERAL HIGHWAY MAP, CLINCH & WARE CO., GEORGIA
PREPARED BY THE GEORGIA DEPARTMENT OF TRANSPORTATION, 1999.

STRIP MAP
EDS-84(23) & BHN-007-3(25)
US 84 /SR 38 IMPROVEMENTS
CLINCH/WARE COUNTIES
P.I.# 422120 & 422125

06/24/2004

CONCEPT COST ESTIMATE

Office of Environment/Location

June 29, 2004 2:30 PM

County(s) Clinch / Ware

PI Number 422120 **Project Number** EDS-84(23)

Project Name SR 38/US 84 Reconstruction **Project Length** 11.4 **Miles**

Project Description

SR 38/US 84 Widening & Reconstruction

Existing Roadway

2 lanes, 55 mph

Comments

TRAFFIC:

Current Design Year	2005	**Daily Volume (AADT)**	7,150
Future Design Year	2025	**Daily Volume (AADT)**	10,800

[X] **Concept Estimate** [ ] **Feasibility Estimate**

Typical Section(s) Used in Estimate	Typical Section Length	
		Miles
		Miles
		Miles
Rural New Location: 2-Lanes with 24 ft Pavement	1.00	**Miles**
		Miles
		Miles

Prepared By Dave Peters

MAJOR STRUCTURES

Note! All distances are in feet

Bridges: Stream Crossings & Grade Separations

NO	LOCATION	QTY	CROSSING TYPE	WIDTH	LENGTH	UNIT COST	TOTAL
1	Woodyard Creek	1	Stream-New	89.00	175.0	54.00	841,000
2	Woodyard Creek Overflow	1	Stream-Widen	55.00	89.0	120.00	587,000
3	Cane Creek	2	Stream-New	41.00	210.0	54.00	930,000
4	Peters Branch	2	Stream-New	41.00	100.0	54.00	443,000
5	Box Creek	2	Stream-New	41.00	130.0	54.00	576,000
6	Little Suwanee Creek	2	Stream-New	41.00	85.0	54.00	376,000
7	Suwanee Creek -new	1	Stream-Widen	41.00	140.0	120.00	689,000
8							
9							
10							
11							
12							

Bridge Culverts

NO	LOCATION	TYPE / W x H / FILL	LENGTH	UNIT COST	TOTAL
1	700' W of Floyd James Rd	Triple / 6 x 4 / 10	120.0	899.84	108,000
2	Woodyard Cr Overflow BRCA	Triple / 6 x 4 / 10	60.0	962.30	58,000
3	Woodyard Cr Overflow BRCB	Triple / 6 x 4 / 10	60.0	962.30	58,000
4					
5					
6					
7					
8					

Walls

NO	LOCATION	TYPE	HEIGHT	LENGTH	UNIT COST	TOTAL
1						
2						
3						
4						
5						
6						

MAJOR STRUCTURES SUBTOTAL $ 4,666,000

Typical Section

Urban Widening: 2 To 4-Lanes with 14 ft Flush Median

Typical Section Length 1.70 **Miles** **Right-of-Way Width** 90 **Feet**

GRADING AND DRAINAGE

1. EARTHWORK
   a. Unclassified Excavation Soil
   b. Unclassified Excavation Rock
   c. Borrow Excavation
2. MINOR DRAINAGE

QUANTITY		UNIT COST	TOTAL
	CY		
	CY		
	CY		
1.70	MI	297,806	506,000
		GRADING AND DRAINAGE SUBTOTAL	$506,000

BASE AND PAVING

1. GRADED AGGREGATE BASE
2. ASPHALT PAVING
   a. Asph Conc 9.5 mm Superpave
   b. Asph Conc 19 mm Superpave
   c. Asph Conc 25 mm Superpave
   d. Bituminous Tack Coat
3. CONCRETE PAVING
   a. Curb and Gutter
   b. Miscellaneous
4. OTHER PAVING

THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
10"	23,398	TN	15.11	354,000
1 1/2" (165 LB/SY)	3,707	TN	43.47	161,000
3" (330 LB/SY)	6,328	TN	41.70	264,000
4" (440 LB/SY)	8,577	TN	39.11	335,000
	4,951	GL	1.02	5,000
	19,592	LF	10.91	214,000
	1.70	MI	67,413	115,000
				145,000
			BASE AND PAVING SUBTOTAL	$1,593,000

LUMP ITEMS

1. TRAFFIC CONTROL
2. CLEARING AND GRUBBING
3. EROSION CONTROL
4. SIGNING & MARKING
5. MISCELLANEOUS

QUANTITY		UNIT COST	TOTAL
1.70	MI	105,130	179,000
18.55	AC	6,000	111,000
1.70	MI	70,301	120,000
1.70	MI	62,245	106,000
1.70	MI	157,734	268,000
		LUMP ITEM SUBTOTAL	$784,000

MISCELLANEOUS PROJECT ITEMS

1. GUARDRAIL
2. GUARDRAIL ANCHORS
3. DETOURS
4. SPECIAL FEATURES

QUANTITY		UNIT COST	TOTAL
13,000	LF	9.92	129,000
52	EA	414.14	22,000
	MI	338,984	
		MISCELLANEOUS SUBTOTAL	$151,000

Typical Section

Rural Widening: 2 To 4-Lanes with 32 ft Divided Median

Typical Section Length 9.40 **Miles** **Right-of-Way Width** 220 **Feet**

GRADING AND DRAINAGE

	QUANTITY		UNIT COST	TOTAL
1. EARTHWORK				
a. Unclassified Excavation Soil	72,000	CY	2.65	191,000
b. Unclassified Excavation Rock		CY		
c. Borrow Excavation	207,000	CY	7.17	1,484,000
2. MINOR DRAINAGE	9.40	MI	73,940	126,000
GRADING AND DRAINAGE SUBTOTAL				**$1,801,000**

BASE AND PAVING

	THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
1. GRADED AGGREGATE BASE	10"	105,989	TN	15.11	1,601,000
2. ASPHALT PAVING					
a. Asph Conc 9.5 mm Superpave	1 1/2" (165 LB/SY)	17,932	TN	43.47	780,000
b. Asph Conc 19 mm Superpave	3" (330 LB/SY)	31,480	TN	41.70	1,313,000
c. Asph Conc 25 mm Superpave	4" (440 LB/SY)	38,256	TN	39.11	1,496,000
d. Bituminous Tack Coat		23,320	GL	1.02	24,000
3. CONCRETE PAVING					
a. Curb and Gutter			LF		
b. Miscellaneous		9.40	MI	36,705	345,000
4. OTHER PAVING					556,000
BASE AND PAVING SUBTOTAL					**$6,115,000**

LUMP ITEMS

	QUANTITY		UNIT COST	TOTAL
1. TRAFFIC CONTROL	9.40	MI	76,522	719,000
2. CLEARING AND GRUBBING	250.67	AC	6,000	1,504,000
3. EROSION CONTROL	9.40	MI	125,336	1,178,000
4. SIGNING & MARKING	9.40	MI	21,173	199,000
5. MISCELLANEOUS	9.40	MI	125,682	1,181,000
LUMP ITEM SUBTOTAL				**$4,781,000**

Typical Section

Rural Widening: 2 To 4-Lanes with 14 ft Flush Median

Typical Section Length 0.30 **Miles** **Right-of-Way Width** 150 **Feet**

GRADING AND DRAINAGE

1. EARTHWORK
   a. Unclassified Excavation Soil
   b. Unclassified Excavation Rock
   c. Borrow Excavation
2. MINOR DRAINAGE

QUANTITY		UNIT COST	TOTAL
	CY		
	CY		
	CY		
0.30	MI	50,856	86,000
GRADING AND DRAINAGE SUBTOTAL			$86,000

BASE AND PAVING

1. GRADED AGGREGATE BASE
2. ASPHALT PAVING
   a. Asph Conc 9.5 mm Superpave
   b. Asph Conc 19 mm Superpave
   c. Asph Conc 25 mm Superpave
   d. Bituminous Tack Coat
3. CONCRETE PAVING
   a. Curb and Gutter
   b. Miscellaneous
4. OTHER PAVING

THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
10"	4,815	TN	15.11	73,000
1 1/2" (165 LB/SY)	1,089	TN	43.47	47,000
3" (330 LB/SY)	1,494	TN	41.70	62,000
4" (440 LB/SY)	1,514	TN	39.11	59,000
	1,090	GL	1.02	1,000
		LF		
	0.30	MI	11,401	3,000
				25,000
BASE AND PAVING SUBTOTAL				$270,000

LUMP ITEMS

1. TRAFFIC CONTROL
2. CLEARING AND GRUBBING
3. EROSION CONTROL
4. SIGNING & MARKING
5. MISCELLANEOUS

QUANTITY		UNIT COST	TOTAL
0.30	MI	59,304	18,000
5.45	AC	6,000	33,000
0.30	MI	84,103	25,000
0.30	MI	33,293	10,000
0.30	MI	64,908	19,000
LUMP ITEM SUBTOTAL			$105,000

Typical Section

Rural New Location: 2-Lanes with 24 ft Pavement

Typical Section Length 1.00 **Miles** **Right-of-Way Width** 100 **Feet**

GRADING AND DRAINAGE

	QUANTITY		UNIT COST	TOTAL
1. EARTHWORK				
a. Unclassified Excavation Soil		CY		
b. Unclassified Excavation Rock		CY		
c. Borrow Excavation		CY		
2. MINOR DRAINAGE	1.00	MI	27,015	46,000
GRADING AND DRAINAGE SUBTOTAL				**$46,000**

BASE AND PAVING

	THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
1. GRADED AGGREGATE BASE	10"	10,981	TN	15.11	166,000
2. ASPHALT PAVING					
a. Asph Conc 9.5 mm Superpave	1 1/2" (165 LB/SY)	1,791	TN	43.47	78,000
b. Asph Conc 19 mm Superpave	3" (330 LB/SY)	3,609	TN	41.70	151,000
c. Asph Conc 25 mm Superpave	4" (440 LB/SY)	3,187	TN	39.11	125,000
d. Bituminous Tack Coat		2,284	GL	1.02	2,000
3. CONCRETE PAVING					
a. Curb and Gutter			LF		
b. Miscellaneous		1.00	MI	20,471	20,000
4. OTHER PAVING					54,000
BASE AND PAVING SUBTOTAL					**$596,000**

LUMP ITEMS

	QUANTITY		UNIT COST	TOTAL
1. TRAFFIC CONTROL	1.00	MI	10,696	11,000
2. CLEARING AND GRUBBING	12.12	AC	6,000	73,000
3. EROSION CONTROL	1.00	MI	123,468	123,000
4. SIGNING & MARKING	1.00	MI	8,419	8,000
5. MISCELLANEOUS	1.00	MI	32,757	33,000
LUMP ITEM SUBTOTAL				**$248,000**

ESTIMATE SUMMARY

TYPICAL SECTION	COST (per mile)
1. Urban Widening: 2 To 4-Lanes with 14 ft Flush Median	$ 1,696,000
2. Rural Widening: 2 To 4-Lanes with 32 ft Divided Median	$ 1,351,000
3. Rural Widening: 2 To 4-Lanes with 14 ft Flush Median	$ 1,537,000
4. Rural New Location: 2-Lanes with 24 ft Pavement	$ 890,000

PROJECT COST

A. MAJOR STRUCTURES	**$**	**4,666,000**
B. GRADING AND DRAINAGE	**$**	**2,439,000**
C. BASE AND PAVING	**$**	**8,574,000**
D. LUMP ITEMS	**$**	**5,918,000**
E. MISCELLANEOUS	**$**	**151,000**
SUBTOTAL CONSTRUCTION COST	**$**	**21,748,000**
ENGINEERING & CONTINGENCIES (10%)	**$**	**2,175,000**
INFLATION 2 yr(s) @ 5 % per yr	**$**	**2,452,000**
GRAND TOTAL CONSTRUCTION COST	**$**	**26,375,000**

CONCEPT COST ESTIMATE

Office of Environment/Location

June 29, 2004 2:55 PM

County(s) Ware

PI Number 422125 **Project Number** BHN-007-3(25)

Project Name SR 38/US 84 @ Suwanee Creek **Project Length** 0.1 **Miles**

Project Description

Replace existing bridge over Suwanee Creek

Existing Roadway

2 lanes, 55 mph

Comments

TRAFFIC:

Current Design Year	2005	**Daily Volume (AADT)**	7,150
Future Design Year	2025	**Daily Volume (AADT)**	10,800

[X] **Concept Estimate** [ ] **Feasibility Estimate**

Typical Section(s) Used in Estimate	Typical Section Length
	Miles
	Miles
	Miles
	Miles
	Miles
	Miles

Prepared By Dave Peters

MAJOR STRUCTURES

Note! All distances are in feet

Bridges: Stream Crossings & Grade Separations

NO	LOCATION	QTY	CROSSING TYPE	WIDTH	LENGTH	UNIT COST	TOTAL
1	Suwanee Creek	1	Stream-New	41.00	140.0	54.00	310,000
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

Bridge Culverts

NO	LOCATION	TYPE / W x H / FILL	LENGTH	UNIT COST	TOTAL
1					
2					
3					
4					
5					
6					
7					
8					

Walls

NO	LOCATION	TYPE	HEIGHT	LENGTH	UNIT COST	TOTAL
1						
2						
3						
4						
5						
6						

MAJOR STRUCTURES SUBTOTAL $ 310,000

Typical Section

Typical Section Length [ ] **Miles** **Right-of-Way Width** [ ] **Feet**

GRADING AND DRAINAGE

	QUANTITY		UNIT COST	TOTAL
1. EARTHWORK				
a. Unclassified Excavation Soil		CY		
b. Unclassified Excavation Rock		CY		
c. Borrow Excavation		CY		
2. MINOR DRAINAGE		MI		
			GRADING AND DRAINAGE SUBTOTAL	

BASE AND PAVING

	THICKNESS and SPREAD RATE	QUANTITY		UNIT COST	TOTAL
1. GRADED AGGREGATE BASE			TN		
2. ASPHALT PAVING					
a. Asph Conc 9.5 mm Superpave	1 1/2" (165 LB/SY)		TN		
b. Asph Conc 19 mm Superpave	3" (330 LB/SY)		TN		
c. Asph Conc 25 mm Superpave	4" (440 LB/SY)		TN		
d. Bituminous Tack Coat			GL		
3. CONCRETE PAVING					
a. Curb and Gutter			LF		
b. Miscellaneous			MI		
4. OTHER PAVING					
				BASE AND PAVING SUBTOTAL	

LUMP ITEMS

	QUANTITY		UNIT COST	TOTAL
1. TRAFFIC CONTROL		MI		
2. CLEARING AND GRUBBING		AC		
3. EROSION CONTROL		MI		
4. SIGNING & MARKING		MI		
5. MISCELLANEOUS		MI		
			LUMP ITEM SUBTOTAL	

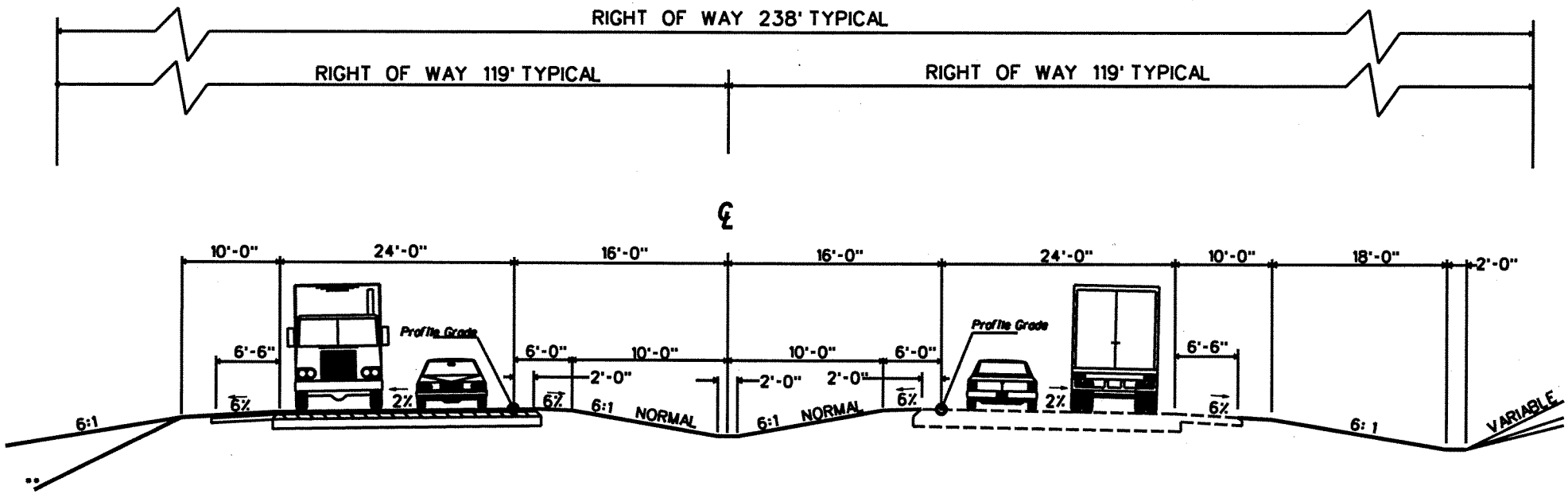
MISCELLANEOUS PROJECT ITEMS

	QUANTITY		UNIT COST	TOTAL
1. GUARDRAIL	1,000	LF	9.35	9,000
2. GUARDRAIL ANCHORS	4	EA	390.54	2,000
3. DETOURS	0.20	MI	331,252	66,000
4. SPECIAL FEATURES				
Tie-in to existing roadway				125,000
			MISCELLANEOUS SUBTOTAL	

ESTIMATE SUMMARY

TYPICAL SECTION		COST (per mile)
PROJECT COST		
A. MAJOR STRUCTURES	$	310,000
B. GRADING AND DRAINAGE	$	-
C. BASE AND PAVING	$	-
D. LUMP ITEMS	$	-
E. MISCELLANEOUS	$	125,000
SUBTOTAL CONSTRUCTION COST	$	435,000
ENGINEERING & CONTINGENCIES (10%)	$	44,000
INFLATION 2 yr(s) @ 5 % per yr	$	48,000
GRAND TOTAL CONSTRUCTION COST	$	527,000

GRIP TYPICAL SECTION
32' DEPRESSED MEDIAN RURAL SECTION
65 MPH SPEED DESIGN



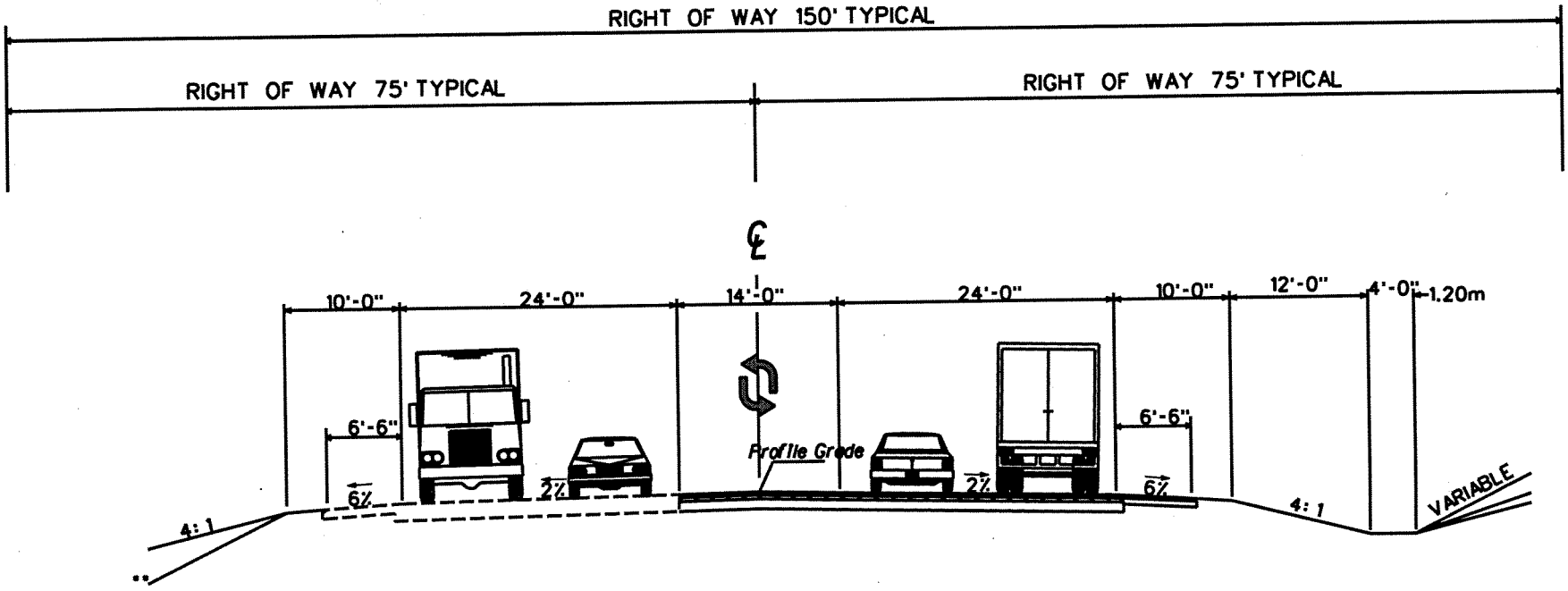
** Guardrail Required when steeper than 6:1

S.R. 38 IMPROVEMENTS
EDS-84(27) WARE CO.

LIMITS SECTION APPLIES
FROM EAST OF WOODYARD CREEK OVERFLOW BRIDGE TO APPROX. 500 FEET WEST OF CR 27
FROM APPROX. 1000 FEET EAST OF CR 57 TO END OF PROJECT

NOT TO SCALE

GRIP TYPICAL SECTION
14' FLUSH MEDIAN RURAL SECTION
45 MPH SPEED DESIGN



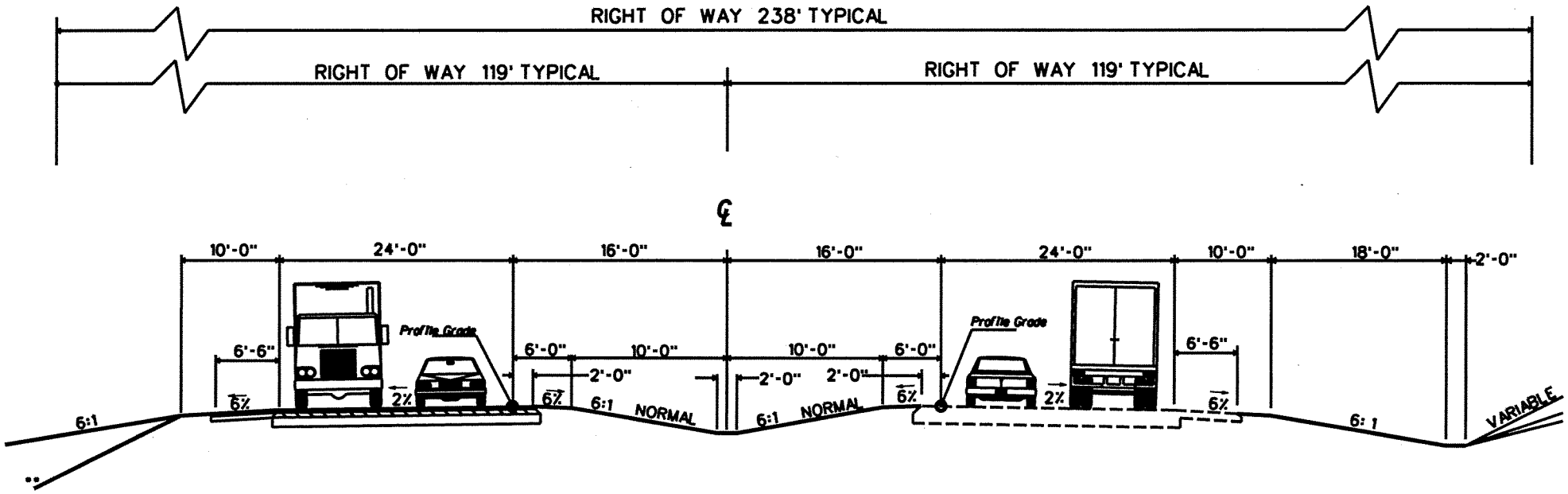
** Guardrail Required when steeper than 4:1

S.R. 38 IMPROVEMENTS
EDS-84(27) WARE CO.

LIMITS SECTION APPLIES
FROM APPROX. 500 FEET WEST OF CR 27
TO APPROX. 1150 FEET WEST OF CR 24 IN MANOR

NOT TO SCALE

GRIP TYPICAL SECTION
32' DEPRESSED MEDIAN RURAL SECTION
65 MPH SPEED DESIGN



** Guardrail Required when steeper than 6:1

S.R. 38 IMPROVEMENTS
EDS-84(27) WARE CO.

LIMITS SECTION APPLIES

1. FROM EAST OF WOODYARD CREEK OVERFLOW BRIDGE TO APPROX. 500 FEET WEST OF CR 27
2. FROM APPROX. 1000 FEET EAST OF CR 57 TO END OF PROJECT

NOT TO SCALE